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	same (lpf1 promoter or pdx1 promoter) $\frac{L3}{L2}$
	same (transgenic) 4 L2
<u>L1</u> (GP	R40) 59 <u>L1</u>

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L1 177 S (GPR40)

L2 1 S L1 AND (TRANSGENIC OR KNOCKOUT OR GENE DISRUPTION)

L3 58 S L1 AND (DIABETES)

L4 39 DUP REM L3 (19 DUPLICATES REMOVED)

L5 6 S L4 AND PY<=2003

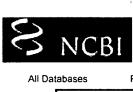
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- L2 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2007 ACS on STN
- TI Medium and long chain fatty acids and eicosanoids activate G protein-coupled receptor GPR40 and regulate insulin secretion from pancreatic β cells
- SO PCT Int. Appl., 257 pp.

CODEN: PIXXD2

- IN Hinuma, Shuji; Hosoya, Masaki; Ito, Yasuaki; Kobayashi, Makoto; Tanaka, Hideyuki; Okubo, Shoichi; Fujii, Ryo; Kizawa, Hideki; Kawamata, Yuji; Ogi, Kazuhiro; Harada, Masataka; Fukusumi, Shoji
- Use of (1) a G protein-coupled receptor and (2) a fatty acid or an AB eicosanoid for screening compds. capable of modulating the binding of the above receptor-ligand interactions, as drug candidates or diagnostic agents, is disclosed. Use of mammals, rodents in particular, more specifically mouse or rat and their ES cells, transformed with a GPR40 expression construct or GPR40 gene knockout reporter gene expression construct, for drug screening is claimed. Use of antibodies or siRNA specific to GPR40 or encoding gene for diagnosis or therapy is also claimed. Ligand fishing expts. in HEK293 cells expressing human GPR40 revealed that a range of saturated and unsatd. carboxylic acids with carbon chain lengths greater than six were able to induce an elevation of [Ca2+]i, measured using a fluorometric imaging plate reader. Expression anal. by quant. reverse transcription-PCR showed that GPR40 was specifically expressed in pancreas, with expression in rodent pancreas being localized to insulin-producing β -cells. A G-protein-coupled receptor, GPR40, which is abundantly expressed in the pancreas, functions as a receptor for long-chain free fatty acids (FFAs). Furthermore, the authors show that long-chain FFAs amplify glucose-stimulated insulin secretion from pancreatic β cells by activating GPR40. The authors' results indicate that GPR40 agonists and/or antagonists show potential for the development of new anti-diabetic drugs. The authors also cloned GPR40 cDNA from rat, mouse, monkey, and hamster.

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